



US009987290B2

(12) **United States Patent**  
**Harrington et al.**

(10) **Patent No.:** **US 9,987,290 B2**  
(45) **Date of Patent:** **Jun. 5, 2018**

(54) **METHODS FOR THE SEPARATION AND  
DETECTION OF AN OXYSTEROL**

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(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 26 days.

(21) Appl. No.: **15/082,665**

(22) Filed: **Mar. 28, 2016**

(65) **Prior Publication Data**

US 2017/0273990 A1 Sep. 28, 2017

(51) **Int. Cl.**  
**A61K 31/575** (2006.01)  
**G01N 33/74** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **A61K 31/575** (2013.01); **G01N 33/743**  
(2013.01)

(58) **Field of Classification Search**  
CPC ..... C07J 41/00; A61K 31/575  
See application file for complete search history.

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(57) **ABSTRACT**

Assay methods for determining purity of a sample of a sterol are provided. These methods include providing an HPLC eluent including a sterol, other compounds related to the sterol and a mobile volatile phase; generating an aerosol of liquid droplets from the HPLC eluent; drying the liquid droplets to obtain residue particles of the sterol; contacting the residue particles of the sterol with an ion stream which applies a size-dependent electrical charge to each of the residue particles to generate an electrical signal and measuring the electrical signal to determine the purity of the sterol in the sample. The sterol can be OXY133 or OXY133 monohydrate.

**18 Claims, 12 Drawing Sheets**